CLAIMS

1. A conditional order transaction network that matches or compares buy and sell orders for a plurality of security instruments based upon conditions set forth within the order, including the price represented as an algorithm with constraints thereon, the transaction network comprising:

5   a variable number of trader terminals for entering an order for a security instrument in the form of an algorithm with constraints thereon that represent a willingness to transact, where the price is the dependent variable of the algorithm within the constraints and the price of another security as an independent variable, the algorithm representing a buy or sell order; and

10   at least one controller computer coupled to each of the trader terminals over a communications network and receiving as inputs,

a) each algorithm with its corresponding constraints and

b) at least one external price feeds depicting prices of various securities and contracts from external multiple exchanges which may be used as an independent

15   variable of the algorithm or an input to a constraint variable, the controller computer comprising,

means for matching, in accordance with the constraints and conditions, algorithmic buy orders with algorithmic sell orders, and

means for matching or comparing, in accordance with the constraints and

20   conditions, algorithmic buy/sell orders with non-algorithmic sell/buy orders through the use of the external multiple data sources.

2. The conditional order transaction network of claim 1 wherein the order price, as represented by an algorithm, includes an order quantity subject to another algorithm.

3. The conditional order transaction network of claim 1 wherein the controller computer matches/compares orders in real-time as each order is received at the controller computer and as each new price of each other conditional security is received at the controller computer.

4. The conditional order transaction network of claim 1 further comprising means for maintaining the identity of the terminal on which the order was entered.

5. The conditional order transaction network of claim 1 wherein the order algorithm can be represented as a line in two dimensional space with constraints having the price of one security as one axis and the price of another security as its other axis.

6. The conditional order transaction network of claim 1 wherein the instrument includes bonds.

7. The conditional order transaction network of claim 1 wherein the instrument includes warrants.

8. The conditional order transaction network of claim 1 wherein the independent variable may include multiple independent variables.

9. The conditional order transaction network of claim 1 wherein the sell order includes a sell short order.

10. The conditional order transaction network of claim 1 wherein the instrument includes convertible securities.

11. The conditional order transaction network of claim 1 wherein the instrument includes stocks.

12. The conditional order transaction network of claim 1 wherein the instrument includes options.

13. The conditional order transaction network of claim 1 wherein the instrument includes futures.

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14. The conditional order transaction network of claim 1 wherein the instrument includes forward contracts.

15. The conditional order transaction network of claim 1 wherein the instrument includes swap contracts.

16. The conditional order transaction network of claim 2 wherein the price may be a yield.

17. The conditional order transaction network of claim 2 wherein the price may be a volatility.

18. The conditional order transaction network of claim 2 wherein the price may be a yield spread.

19. The conditional order transaction network of claim 1 wherein one of the conditions is the requirement that another security is traded contemporaneously.

20. The conditional order transaction network of claim 1 wherein one of the conditions is that no transaction can occur when the independent variable price is above or below set limits.

21. The conditional order transaction network of claim 1 wherein one of the conditions is that the price is not to exceed a specified level regardless of the results produced by the algorithm.

22. The conditional order transaction network of claim 1 wherein one of the conditions is that the price is not to be less than a specified level regardless of the results produced by the algorithm.

23. The conditional order transaction network of claim 1 wherein one of the conditions is the requirement that the orders be matched/compared without use of prices fed from said external multiple exchanges.

24. A trader workstation for trading and negotiating prospective trades for instruments referenced in buy and sell orders, based upon conditions set forth in the orders including the price represented by an algorithm with constraints thereon, comprising;

a display device for displaying the selected parameters of buy and sell orders in a prioritized sequence in a descending order of favorability across a display field, with the most favorable order at one distal end and the least favorable at the other distal end;

an input device for entering outgoing orders to be traded or negotiated into the trader workstation; and

a computer for receiving the outgoing orders and incoming order information from traders' terminals, and for controlling the display device, said computer including,

a comparator for comparing all incoming orders relative to outgoing orders, and

a sorter that resequences the orders in real-time in the display field as each order is received to reflect changes in the relative favorability of the orders.

25. The workstation of claim 21 wherein the order price, as represented by an algorithm, includes an order quantity subject to another algorithm.

26. The workstation of claim 21 wherein the computer matches/compares orders in real-time as each order is received at the computer and as each new price of each other conditional security is received at the computer.

27. The workstation of claim 21 further comprising means for maintaining the identity of the trader's terminal on which the order was entered.

28. The workstation of claim 21 wherein the order algorithm can be represented as a line in two dimensional space with constraints having the price of one security as one axis and the price of another security as its other axis.

29. The workstation of claim 21 wherein the sell order includes a sell short order.

30. The workstation of claim 21 wherein the instrument includes convertible securities.

31. The workstation of claim 21 wherein the instrument includes stocks.

32. The workstation of claim 21 wherein the instrument includes options.

33. The workstation of claim 21 wherein the instrument includes futures.

34. The workstation of claim 21 wherein the instrument includes forward contracts.

35. The workstation of claim 21 wherein the instrument includes swap contracts.

36. The workstation of claim 22 wherein the price may be a yield.

37. The workstation of claim 22 wherein the price may be a volatility.

38. The workstation of claim 22 wherein the price may be a yield spread.

39. The workstation of claim 21 wherein the relative favorability is determined by the current value of the underlying security.

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40. The workstation of claim 21 wherein said display device further includes a ticker field, for displaying changing security values from external markets, an order entry field, for displaying current order information of the algorithms to be negotiated/traded, and a wild card field, for displaying research data related to the

5 algorithms.

41. A conditional order transaction network that matches or compares buy and sell orders for a plurality of items based upon conditions set forth within the order, including the price represented as an algorithm with constraints thereon, the conditional order transaction network comprising:

5 a variable number of trader terminals for entering an order for an item in the form of an algorithm with constraints thereon that represent a willingness to transact, where the price is the dependent variable of the algorithm within the constraints and the price of another item as an independent variable, the algorithm representing a buy or sell order; and

10 controller computer means coupled to each of the trader terminals over a communications network and receiving as inputs, each algorithm with its corresponding constraints;

means for matching, in accordance with the constraints and conditions, algorithmic buy orders with algorithmic sell orders, and

15 means for matching or comparing, in accordance with the constraints and conditions, algorithmic buy/sell orders with non-algorithmic sell/buy orders.

42. A conditional order transaction network that matches or compares buy and sell orders for a plurality of items based upon conditions set forth within the order, including the price represented as an algorithm with constraints thereon, the conditional order transaction network comprising:

5 a variable number of trader terminals for entering an order for an item in the form of an algorithm with constraints thereon that represent a willingness to transact, where the price is the dependent variable of the algorithm within the constraints and the price of another item as an independent variable, the algorithm representing a buy or sell order;

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10   controller computer means coupled to each of the trader terminals over a communications network and receiving as inputs, each algorithm with its corresponding constraints;

means for matching, in accordance with the constraints and conditions, algorithmic buy orders with algorithmic sell orders; and

15   means for matching or comparing, in accordance with the constraints and conditions, algorithmic buy/sell orders with non-algorithmic sell/buy orders; and

wherein the order algorithm can be represented as a line in two dimensional space with constraints having the price of one security as one axis and the price of another security as its other axis.

43.   A conditional order transaction network that electronically matches or compares buy and sell orders for a plurality of items from the same or diverse equity markets based upon conditions set forth within the order, including the price represented as an algorithm with constraints thereon, the conditional order

5   transaction network comprising:

a variable number of trader terminals for entering an order for an item in the form of an algorithm with constraints thereon that represent a willingness to transact, where the price is the dependent variable of the algorithm within the constraints and the price of another item as an independent variable, the algorithm representing a

10   buy or sell order;

controller computer means coupled to each of the trader terminals over a communications network and receiving as inputs, each algorithm with its corresponding constraints; and

a device for matching or comparing, in accordance with the constraints and

15   conditions, algorithmic buy/sell orders with algorithmic or non-algorithmic sell/buy orders and simultaneously executing a trade of said items in the same or diverse equity markets as a single electronically matched trade.

44.   The conditional order transaction network of claim 43 wherein said device for matching and comparing establishes prices at which the buy/sell orders potentially match during a matching cycle; establishes unmatched remainder data at

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such established prices; searches the external data sources for additional buy and

5   sell data available to match the remainder data; combines the matched remainder data with the potentially matching orders for creating a completed match according to accepted match criteria in order to execute said single electronically matched trade.

45.   A computer program embodied on a computer-readable medium for matching or comparing buy and sell orders for a plurality of items based upon conditions set forth within the order, including the price represented as an algorithm with constraints thereon, a source code for the program having a plurality of

5   segments comprising:

    a segment for processing data from a variable number of trader terminals for entering an order for an item in the form of an algorithm with constraints thereon that represent a willingness to transact, where the price is the dependent variable of the algorithm within the constraints and the price of another item as an independent

10   variable, the algorithm representing a buy or sell order; and

    a segment for a controlling a computer coupled to each of the trader terminals over a communications network and receiving as inputs,

    a) each algorithm with its corresponding constraints and

    b) an external price feed depicting prices of various items and contracts from

15   external multiple data sources which may be used as an independent variable of the algorithm or an input to a constraint variable, the source code further comprising,

    a segment for matching or comparing, in accordance with the constraints and conditions, algorithmic buy/sell orders with algorithmic or non-algorithmic sell/buy orders through the use of the external multiple data sources, and

20   a segment for simultaneously executing a trade of said items in the same or diverse equity markets as a single electronically matched trade.

46.   The computer program of claim 45 wherein said source code further includes a segment for establishing prices at which the buy/sell orders potentially match during a matching cycle; a segment for establishing unmatched remainder data at such established prices; a segment for searching the external data sources

5   for additional buy and sell data available to match the remainder data; a segment for combining the matched remainder data with the potentially matching orders for creating a completed match according to accepted match criteria in order to execute said single electronically matched trade.

47.   A computer data signal embodied in a carrier wave having a plurality of source code segments comprising:

    a segment for processing data from a variable number of trader terminals for entering an order for an item in the form of an algorithm with constraints thereon that represent a willingness to transact, where the price is the dependent variable of the algorithm within the constraints and the price of another item as an independent variable, the algorithm representing a buy or sell order; and

    a segment for a controlling a computer coupled to each of the trader terminals over a communications network and receiving as inputs,

10   a) each algorithm with its corresponding constraints and

    b) an external price feed depicting prices of various items and contracts from external multiple data sources which may be used as an independent variable of the algorithm or an input to a constraint variable, the source code further comprising,

    a segment for matching or comparing, in accordance with the constraints and

15   conditions, algorithmic buy/sell orders with algorithmic or non-algorithmic sell/buy orders through the use of the external multiple data sources, and

    a segment for simultaneously executing a trade of said items in the same or diverse equity markets as a single electronically matched trade.

48.   The computer data signal of claim 47 wherein said source code further includes a segment for establishing prices at which the buy/sell orders potentially match during a matching cycle; a segment for establishing unmatched remainder data at such established prices; a segment for searching the external data sources

5   for additional buy and sell data available to match the remainder data; a segment for combining the matched remainder data with the potentially matching orders for creating a completed match according to accepted match criteria in order to execute said single electronically matched trade.

49. A conditional order transaction network that matches or compares buy and sell orders for a plurality of items based upon conditions set forth within the order, including the price represented as an algorithm with constraints thereon, the conditional order transaction network comprising:

5   a variable number of trader terminals for entering an order for an item in the form of an algorithm with constraints thereon that represent a willingness to transact, where the price is the dependent variable of the algorithm within the constraints and the price of another item as an independent variable, the algorithm representing a buy or sell order;

10   each trader terminal being programmable by a user to establish a preferred data display format, and translation circuitry for processing different incoming data formats into said preferred format;

controller computer means coupled to each of the trader terminals over a communications network and receiving as inputs, each algorithm with its 15   corresponding constraints; and

a device for matching or comparing, in accordance with the constraints and conditions, algorithmic buy/sell orders with algorithmic or non-algorithmic sell/buy orders and simultaneously executing a trade of said items in the same or diverse equity markets as a single electronically matched trade.

50. The conditional order transaction of claim 43 wherein each trader terminal includes:

interface circuitry for transmitting or receiving the algorithmic buy/sell orders including an entire algorithm thereof, or attributes of that algorithm, along said 5   communication link;

a processor for generating orders to be transmitted or analyzing orders received within the terminal independently of algorithm processing within the controller computer means; and

a display for displaying, in selectable formats, information representing the 10   algorithmic buy and sell orders.

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